



# INFORMATION TECHNOLOGY MASTER PLAN

## Report

*Client Locations*  
**Coast-to-Coast**

*Practice Locations*  
**California**  
**Colorado**  
**Illinois**

**1.800.806.3080**

*Presented to*



*Town of Danville*

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# EXECUTIVE SUMMARY

## ENGAGEMENT BACKGROUND

At a Planning and Goal Setting Workshop, the Danville Town Council acknowledged that technology has evolved to the point that the public expects to have easy, around-the-clock access to products and services. In recognition of these new expectations, the Town has identified the need to implement the following “Government 2.0” service-delivery principles:

- Principle 1*     Serve as the primary source of reliable, accurate, and timely Town information, delivered to the customer on their platform of choice.
- Principle 2*     Maintain a real-time, interactive, user-centered website that offers easy access to public information and on-line services.
- Principle 3*     Offer opportunities for on-line civic engagement and social collaboration.
- Principle 4*     Enable businesses and organizations to leverage the Town’s technology platforms as the foundation for improvement.

*CLIENTFIRST* Consulting Group, LLC (*CLIENTFIRST*) was selected by the Town of Danville to create an Information Technology Master Plan (ITMP) to assist the Town in developing a road map for implementation of the “Government 2.0” service delivery principles.

The ITMP was developed in three phases:

1. **Conduct a Needs Assessment.** *CLIENTFIRST* interviewed key representatives from each program area to determine the functional technology and resource needs required to deliver service consistent with the four service delivery principles outlined above.
2. **Evaluate Existing Resources and Identify Enhancements.** *CLIENTFIRST* created an inventory of the Town’s current technology infrastructure (network architecture, management and maintenance practices, and user policies) and identified the resources necessary for a phased implementation of the four service delivery principles.
3. **Develop an Information Technology Master Plan (ITMP).** *CLIENTFIRST* worked with an oversight committee (the “Technology Super Committee”) and the Management Team to align information technology (IT) services and projects with the Town’s service delivery principles. These requirements were organized into 94 IT Initiatives and Sub-Initiatives that serve as the basis of the ITMP (see *Appendix A*). A Five-Year IT Capital Plan was developed, including capital budget estimates listed for each recommendation, as a component of the ITMP.

The resulting ITMP has been presented in summary form to the Town’s IT Department, the oversight committee assigned to the project, Town management and the Town Manager.

## OBJECTIVES

The ITMP outlines the projects and initiatives required to meet the following objectives:

1. **Expand Communications & Outreach** efforts that establish the Town as the primary source for accurate and timely information.
2. **Expand On-Line Services** that, through a phased approach, offer appropriate municipal services on-line as an option for interacting with the Town.
3. **Provide On-Line Information** in a manner that enables public documents to be viewed in Web-accessible formats.
4. **Consider On-Line Civic Engagement** forums that utilize social media to connect and engage the public in decision-making processes and increase the level of transparency in local government.
5. **Leverage Technology Investments** by providing a platform for the Town's affiliate organizations and businesses, where appropriate, to build upon for the general benefit of the community and to enhance local economic development.

## INFORMATION SYSTEMS GOALS

The goals for leveraging information systems to deliver Town services, in accordance with its service delivery principles include:

- Create an "electronic town government"
- Make the experience of interacting with the Town as convenient as possible
- Leverage the Internet to provide constituents with 24-hour access to Town services
- Leverage technology to become more efficient in providing improved services while maintaining consistent overall staffing levels
- Utilize the Town website to increase communications with citizens and other constituents
- Increase the number of services available through the website
- Increase the type and amount of Town information available through the website
- Use collaboration tools to provide a forum for businesses, citizens, and staff to work together on Town projects and to address issues
- Increase outreach with fewer resources

## MAJOR FINDINGS AND RECOMMENDATIONS

### Enterprise Applications

The Town utilizes over 100 different software applications/modules throughout all departments, and the number is growing. The core operation applications include:

- Financials/Accounting – Munis
- Human Resources/Payroll – Munis
- Land Management – Building, Planning, and Engineering Permits – Accela Permits Plus, Business License - HdL
- Maintenance Management – Munis (implementing)
- Parks & Recreation – Class
- Electronic Document Management System (EDMS) – LaserFiche
- Geographic Information System (GIS) – GeoMedia

The Town should make efforts to reduce and limit the total number of software vendors and databases whenever possible. This will reduce overall cost-of-ownership, support requirements, training, reporting needs, and will improve overall integration capabilities.

*CLIENTFIRST* believes that most of Danville's core application providers fit the Town's needs relatively well. These applications also provide sufficient flexibility to grow with the Town's needs over the planning horizon. Before purchasing additional systems or modules, we recommend that the Town investigate whether the current vendors can provide required application functionality before investigating other products. Expanding Town utilization of existing software applications will be less expensive, more risk averse, and will shorten implementation duration over software from new providers.

The Town can improve application implementations through adopting industry best practices. Utilizing an enhanced implementation methodology should lead to significant improvements in the acceptance of new application modules or systems and provide significant productivity improvements. We recommend that the Town plan each application implementation, in detail, prior to beginning implementation work efforts.

### Application Management Best Practices

Danville can benefit greatly by changing traditional application management practices. The following recommendations will lead to improved application functionality, application utilization, process improvements, and increase productivity:

**Own and maintain their own business processes** – Departments have a more thorough understanding of the details related to their specific business function than the IT Department (IT) does, and can better determine how business processes can be improved. It is most effective for each department to understand, document, and train staff to utilize application software.

**Assign and train "application champions"** – A departmental "application champion" is an individual who works within that function and is in the best position to translate department desires and needs into software requirements, providing and implementing planned enhancements, make ongoing configuration changes and provide departmental ad hoc reporting.

**Application administration** – Most departments should understand the application systems sufficiently to maintain and update basic application setup and configuration tables without the assistance of IT.

## Government 2.0

The Town of Danville is already following all four Government 2.0 (Gov 2.0) principles. However, there is much more that can be done to advance the Town's Gov 2.0 vision through improved e-government services and on-line communications. The following summarizes the high-priority projects that can generate significant improvements towards the Gov 2.0 objectives.

### Website Enhancements and Content Management

Municipalities that provide a significant number of services through the Internet regularly enhance their websites. Website enhancements and content management will require consistent effort on the part of all departments to identify and improve areas of communication with Danville businesses and residents. Maintaining a summary list of prioritized enhancements will be critical to organizing updates and scheduling major improvements to the site. The IT Steering Committee should track and maintain the list of prioritized website enhancements as part of its scope.

### Citizen Relationship Management (CRM)

Citizen Relationship Management systems provide businesses and residents with a 24/7, on-line method to request services or register complaints. These systems also provide significant benefits to the municipality through computerized tracking of citizen requests, automated responses to requests and, potentially, integration with an internal work order system.

Many municipalities have successfully implemented CRM systems as an additional vehicle for the intake of business and resident requests. Most of our clients continue to allow call-in requests. Staff enters these requests into the same system to maintain a single tracking mechanism. We recommend the Town explore how Munis' Citizen Services can meet the current need for Town CRM.

### Land Management Suite of Applications

Currently, the Town utilizes Permits Plus for land management and community development application functions. Permits Plus has been discontinued and will soon no longer be supported by the vendor. Replacement software must be selected and implemented in the near future.

### Electronic Document Management (EDMS) & Automated Agenda

During our assessment, we discovered several opportunities to improve processes by utilizing additional functions that can be provided by electronic document management systems. The Town should identify, inventory requirements, and begin implementation of document management enhancements that have a significant positive return on investment.

Automated Agenda software provides the ability for the Clerk's Office and departments to compile, review, and finalize Council/Commission meeting agenda items in an on-line collaborative process. We have found that automated agenda systems reduce time spent assembling agenda packets and can, if desired, eventually eliminate the need for paper copies.

Automated Agenda Management and EDMS may be logically provided with the same software vendors' solution.

## Geographic Information Systems (GIS)

GIS systems are becoming integral components in the business of managing a municipality's assets and activities. Most of Danville's peers have at least one full-time GIS staff member. Because of budget constraints, we believe two alternatives hold the most promise for Danville. With either scenario, we recommend that the Town create an inventory of desired GIS information and integrations, prioritize that inventory, and budget time to acquire each data set and complete each layer.

The first alternative would be to identify and train existing staff to perform the tasks of inputting information into GIS. Likely candidates would be staff from public works or engineering. In order for part-time staff to be successful, time for GIS would have to be allocated in blocks (e.g., two 4-hour blocks of time each week dedicated to GIS.)

The second alternative would be to partner with another organization to split the cost of staff. We have other clients that share GIS staff or utilize not-for-profit GIS consortiums to provide part-time staff for GIS work. In both cases, the time spent is highly productive and cost-effective when compared to full-time staff.

## Collaboration Tools

Collaboration tools provide a vehicle for teams of individuals or committees to share pictures, documents, drawings, schedules, and other electronic materials in a secure manner. Improved on-line collaboration is a key goal of Danville Government 2.0. On-line collaboration saves time and energy and makes disbursed teams more productive. We believe that expanding the utilization of the current collaboration software product (Basecamp) in the short-term will provide significant benefits to Danville. Basecamp is inexpensive, easy to use, and provides many helpful features for successful collaboration. Development of basic training materials and expansion of Basecamp to other departments and Town committees and task force(s) is recommended.

## Operations Application Training

As application software changes and becomes more complicated, training staff to use the software properly becomes more important. We believe that a renewed emphasis on targeted staff training in the Town's application software will provide significant improvements in productivity and, in some cases, improved staff acceptance of the software. Development of an inventory of necessary training, and prioritizing that training, is essential to achieving significant productivity improvements.

## Information Technology Infrastructure

As outlined in the Project Methodology Section of this report, *CLIENTFIRST* conducted a detailed IT infrastructure assessment. Overall, Danville's IT infrastructure is positioned well compared to its peer communities. The main areas of concern are:

- The main computer room power distribution and seismic bracing are inadequate.
- Backups and disaster recovery plans require further improvement.

We also reviewed overall IT Security and found that the Town's IT security posture was good.



## Information Systems Resources

The IT staff of the Town is three and one-half full-time equivalents. When we began the project, IT had three staff members. The IT Manager is a working manager who handles most procurement, report writing, GIS, application support, and project management tasks, in addition to her management responsibilities.

We reviewed the project workload as it existed prior to this report and estimated the hours required to complete each project. We estimate that the current IT backlog is approximately three (3) years.

While we have identified some potential productivity improvements and recommend additional part-time assistance for basic technology tasks, we believe that the Five-Year Technology Capital Plan will require additional IT staff resources to assist with project management and business analysis for replacement systems and new modules of existing systems.

Out of 94 total Initiatives and Sub-Initiatives, approximately 50 would require significant project management or procurement efforts and 19 would require business analysis to document and improve process flows. These efforts are more than existing staff can be expected to perform, even with the addition of consultants as subject matter experts. Based on the expected work load, up to two additional business analyst staff members will be beneficial to effectively and efficiently implement and maintain the Initiatives included the Capital Plan.



# ENGAGEMENT METHODOLOGY AND APPROACH

## PHASE 1: Needs Assessment

1. *CLIENTFIRST* obtained and reviewed background information, met with the Town's Project Manager to discuss our work plan, establish overall responsibilities and communications for the project, schedule meetings, and finalize the project plan.
2. *CLIENTFIRST* developed and distributed needs assessment questionnaires which were used as interview guides for use by Danville departments.
3. We conducted interviews in order to gather user needs by department. The primary focus of these interviews was to set and gain an understanding of the functional needs of Danville users. *CLIENTFIRST* Consultants interviewed the following personnel and department:
  - Building
  - Engineering
  - Finance
  - Human Resources/Payroll
  - Information Technology
  - Maintenance
  - Planning
  - Police
  - Recreation & Facilities
  - Town Administration/City Clerk
  - Town Manager
  - Transportation & Economic Development
4. We documented the interview results, including departmental needs and compliance issues. This interview summary is attached to the ITMP as A A.
5. We then categorized and prioritized departmental needs based on Danville's Government 2.0 delivery principles. This process helped identify important strategies and objectives of the ITMP.

## PHASE 2: Review Existing Resources and Identify Potential Enhancements

*CLIENTFIRST* conducted a network infrastructure assessment, utilizing the following work steps.

6. We toured existing IT facilities, including the main computer rooms, telecommunications closets, and the computer room at the Maintenance facility.
7. Met with the IT Manager to review the current budget and the inventory of existing IT-related projects.
8. Interviewed each IT staff member to better assess network architecture, software, and infrastructure. These interviews included information gathering related to the status and direction of the information processing function.
9. A *CLIENTFIRST* network engineer performed an in-depth evaluation of the Danville network and targeted servers. The network evaluation included placement of network analysis tools

onto the network at Town Hall to determine network performance and provide insights into any extraneous network traffic. During the network analysis assessment, we also reviewed network configurations and network security.

### PHASE 3: Develop IT Master Plan

10. *CLIENTFIRST* documented the needs expressed by IT management and staff and reviewed the summary of information gathered during the interview/discovery process. We developed a high-level listing of perceived systems gaps and potential recommendations for improvement that will require further refinement as the process proceeded.
11. Based on the needs generated from Phase 1, the technical requirements from Phase 2, and the perceived gaps and requirements as documented at the beginning of Phase 3, *CLIENTFIRST* identified Strategies, Goals, and Objectives to meet those needs and assist the Town in implementation and support of the Government 2.0 principles.
12. We then translated Strategies, Goals, and Objectives into specific IT Initiatives. These IT Initiatives are discrete projects that will assist the Town in reaching the defined goals.
13. Additionally, we developed preliminary budgetary costs of the proposed recommendations. As a part of this step, we also developed the expected implementation duration of each recommendation and assigned the recommendations with project priorities.
14. Following the assembly of the necessary information for each recommendation, we prepared a Preliminary Workshop Discussion Guide. The guide provided assessment findings, individual recommendations, justification or rationale for each recommendation, costs of the recommendation, preliminary time frames for implementation and any dependencies that were identified as a part of the process. Also included in the Discussion Guide was a five (5)-year IT Capital Plan.
15. We then held Assessment/Strategic Planning workshops with the IT Department to jointly review the more technical recommendations. Following the IT workshop, we held a Planning workshop with the oversight committee, including representatives from:
  - Development & Transportation
  - Engineering
  - Information Technology
  - Parks and Recreation
16. Following these initial workshops, *CLIENTFIRST* conducted additional workshops with IT, the IT Committees, and the Town Manager to provide a project status, review our findings, and answer any questions about the ITMP process.

### PHASE 4: Information Technology Master Plan - Final Report

17. Following these workshops, we modified the workshop presentation and presented the presentation and the Executive Summary of the ITMP to Town Management.

# MAJOR FINDINGS

## INTRODUCTION

During the Needs Assessment phase, we conducted group interviews in order to gather user needs by each department/functional area. The primary focus of these interviews was to gain an understanding of the functional information systems needs of Danville users. Other primary discussion points included, but were not limited to:

- ♦ Enterprise/departmental application needs
- ♦ Process automation needs
- ♦ Key reporting needs
- ♦ Integration of applications with the Internet
- ♦ Telecommunications needs
- ♦ IT support needs
- ♦ Online communications vehicles for staff
- ♦ Application and database standards
- ♦ Training recommendations for departmental users
- ♦ Categorizing needs based on the Government 2.0 delivery principals
- ♦ Discussion of the efforts required to implement the Government 2.0 delivery principals

Additionally, our systems engineers reviewed the existing network configuration, conducted performance tests to determine actual utilization, conducted reviews of critical security components, and interviewed the IT staff. We were impressed by the professional attitude and performance of the staff.

We also conducted Strategy Workshops with IT Management and the project oversight committee (the "Technology Super Committee") to review our initial findings, gather additional information, and finalize priorities.

The following section summarizes the major findings and observations of the Needs Assessment and prioritization workshop processes.

## ENTERPRISE APPLICATIONS

The Town has historically followed a multi-vendor (best-of-breed) approach to application software selection and some equipment purchases. "Multi-vendor" means that each application is selected based on meeting the specific requirements of the user group requesting the application. Integration with other systems, application and technology consistency, and usefulness across the organization are secondary considerations.

Government agencies typically require a range of software applications to support government business, including financial accounting, billing, permitting, maintenance and asset management, etc. *(See the following page illustration of a typical public administration enterprise applications overview.)* The alternative to a multi-vendor approach is an integrated enterprise approach. With an integrated enterprise solution a single vendor typically supplies most applications. Although these modules can stand alone, the benefit of an integrated enterprise solution is achieved by weaving them together through integrated subsystems.

The Town utilizes over 100 different software applications/modules throughout all departments, and the number is growing. The core operation applications include:

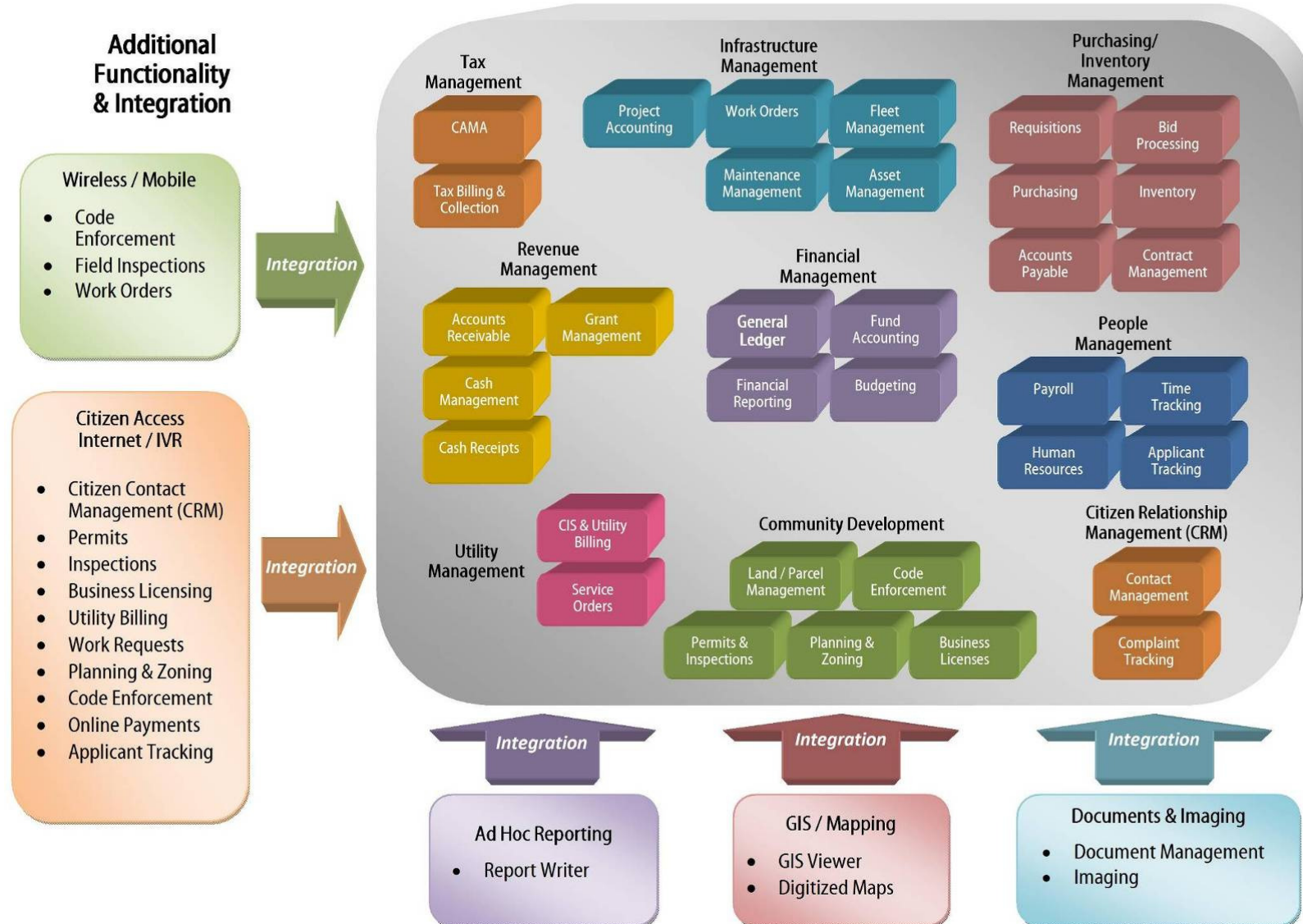
- Financials/Accounting – Munis
- Human Resources/Payroll – Munis
- Land Management – Accela/Permits Plus, Licensing - HdL
- Maintenance Management – Munis (implementing)
- Recreation – Class
- EDMS – LaserFiche
- GIS - GeoMedia

Many software applications are underutilized due to a lack of sufficient IT resources to effectively increase department process improvements that would gain significant efficiencies. Gaining greater utilization of the existing application modules and through installation of other modules available from the same providers is the key to significant productivity increases and greater efficiencies. The ability to accomplish this is made more difficult because of limited resources and the diversity of application providers in use. Additionally, departments need to take more ownership and ongoing support responsibilities for their departmental applications.

The Town should make efforts to reduce and/or limit the total number of software vendors and databases whenever possible, thereby reducing overall cost-of-ownership, support requirements, training and reporting needs, and improving overall integration capabilities.

Recent applications have been implemented primarily under the direction of the IT Department with varying degrees of participation from the user departments. Some departments are owners and advocates of their application software; others defer a significant amount of the work to IT. Due to staff workloads throughout the Town, implementation projects have tended to move forward in phases. Sometimes there are significant pauses between these implementation phases.

## ENTERPRISE APPLICATIONS OVERVIEW – PUBLIC ADMINISTRATION



## APPLICATION SUPPORT

The IT Department (IT) tracks, schedules, and implements application new releases and patches and provides technical support as needed for all applications. IT also provides the majority of report writing or information extraction from the application systems as they are the only reservoir of Crystal Reports expertise at the Town (with the exception of Parks & Recreation.)

Some ongoing configuration changes are performed by some user departments. However, in most cases, the IT staff performs these changes on behalf of the departments. During our review of the IT Help Desk tickets, we found several instances of IT performing relatively simple software changes that could easily be handled by users with the appropriate training.

Some user departments have a strong interest in newly available features and enhancements within the applications they use. Other departments rely on IT to track application improvements and understand industry trends, which are not adequately accomplished due to the limitation of resources.

As the ITMP was being developed, IT was beginning to train user departments to update their own website content. Until recently, IT performed all website content updates and changes. Although this process has begun, the Town does not have a complete/finalized inventory of all website changes and content update items with assigned and estimated resource requirements.

## APPLICATION USAGE

The depth of application knowledge and, therefore, the ability to leverage applications to improve productivity varies greatly from department to department. Departments with stronger feelings of application ownership tend to better understand the capabilities of their application software and are better positioned to utilize those capabilities. Improved utilization can result in significant productivity gains.

## INFORMATION SYSTEMS GOVERNANCE

The Town has recently implemented a Technology Advisory Group (TAG), mainly as a vehicle to discuss project schedules and target completion dates. Participation in the TAG is positive, although not all departments have active information systems projects. The TAG has been dormant during this project as the Town awaits the results of the ITMP and the associated capital plan and schedule.

## GOVERNMENT 2.0

We reviewed the Town's website and electronic presence and we believe that the Town is already following the Government 2.0 principles that are central to the purpose of this report. Of course, opportunities for improvement exist in all areas. Many of Danville's peers have implemented other eGovernment services, such as citizen request management (CRM). Additional opportunities also exist to improve online communications between the Town and its constituents.



## IT DEPARTMENT RESOURCES

The IT staff of the Town is three and one-half full-time equivalents. When we began the project, IT had three staff members. The IT Manager is a working manager who handles most procurement, report writing, GIS, and project management tasks in addition to her management responsibilities.

We reviewed the project workload as it existed prior to this report and estimated the hours required to complete each project. We concluded that the IT backlog was approximately three (3) years. IT is responsible for:

- Munis new application implementations
- Some Munis table and configuration updates
- Permits Plus application support, setup, and configuration
- Video surveillance
- Access control security
- Website updates
- A/V setup
- IT supplies
- Office supply management

## IT INFRASTRUCTURE

As outlined in the Project Methodology Section of this report, *CLIENTFIRST* conducted a detailed IT infrastructure assessment. Overall, Danville's IT infrastructure is positioned well compared to its peer communities. Main areas of concern are:

- The main computer room power distribution and seismic bracing are inadequate
- Backups and disaster recovery plans require further improvement

We also reviewed overall IT security and found that the Town's security posture was good.

## IT DEPARTMENT PRODUCTIVITY

As a part of our IT Department resource review, we evaluated the productivity of the IT staff as measured by the amount of work effort available for new projects versus the amount of work effort required to maintain existing systems. We found that approximately one (1) FTE is available for new project work, while two (2) FTE are dedicated to support and maintenance. This provides a productivity percentage of about 33% versus industry targets of 60% to 70%.



# MAJOR RECOMMENDATIONS

## ENTERPRISE APPLICATIONS

*CLIENTFIRST* believes that Danville's core application providers fit the Town's needs relatively well. These applications also provide sufficient flexibility to grow with the Town's needs over the planning horizon. We have identified project initiatives that will require the Town to purchase key software modules, either from existing vendors or new suppliers. In all cases, we recommend that the Town investigate whether the current vendor can provide the required application functionality before investigating other application providers. Expanding Town utilization of existing software applications will be less expensive, less risky, and will shorten implementation duration over software from new providers.

The Town can improve application implementations through adopting industry best practices. Utilizing an enhanced implementation methodology should lead to significant improvements in the acceptance of new application modules or systems and provide significant productivity improvements.

We recommend that the Town plan each application implementation prior to beginning implementation work efforts. Initial planning should include:

**Identification of a Project Sponsor from a user department** - The Project Sponsor will provide overall project guidance, determine when expansion in scope may be necessary and approve any necessary schedule changes. Often the Project Sponsor also has budgetary responsibility for the project.

**Scope Definition** – The Project Sponsor, in conjunction with IT, should determine how big or ambitious the project should be. Project scope should be clearly defined so that all participants understand the parameters that will make for a successful implementation.

**Identify project team members and roles and responsibilities** – Project team members should represent all affected departmental functions, the application champion, and IT. If possible project team leadership should come from the sponsoring department. The recommended IT role will be to provide the technical infrastructure, technical resources to configure the system, data conversion, and any business analysis expertise required. Departmental resources should participate in all design decisions, business process flow definition and identification of improvements, software setup and configuration, testing, and training.

## APPLICATION SUPPORT

The IT Department should continue to provide information to user departments on application releases and patches. IT will also continue to provide technical support as needed for all applications. Overall, the Town should encourage departments to become more responsible for changes to application setup and configurations. If department personnel are unable to make these changes, training should be provided.

Report writing and other data mining activities are a more challenging topic. We recommend that training be provided to the departments in order that they may perform their own simple report writing (basic listings and extracts in tabular form). In the near future, many applications will move away from Crystal Reports to Microsoft Reporting Services. It is at this

juncture that Danville should consider providing additional training to departments with the expectation that more report writing would then be done within the departments. More complex reporting often requires specific understanding of the database structures of the application and should remain the responsibility of IT if a user (or users) lacks the aptitude to learn this within a specific department.

Over time, we believe that application utilization by departments would improve if application sponsors took a more active role in monitoring upcoming features and how they may benefit the Town. In addition, it would be helpful if application sponsors and sponsoring departments monitored and discussed application usage with other municipalities to gather information and potential productivity improvements that could be incorporated into Danville's implementation.

IT Department website content update training for user departments is an excellent example of the type of assistance IT should be providing to users to allow them to become more self-sufficient. Often, through review of Help Desk tickets and participation in business process analysis, IT will be able to identify repetitive tasks that do not require a significant amount of technical expertise to complete. In many instances, training can be developed to assist the user departments in assuming responsibility for these activities directly, reducing coordination costs and time waiting for IT response.

## ***APPLICATION MANAGEMENT BEST PRACTICES***

Danville can benefit greatly by changing traditional application management practices at the Town. The following recommendations will lead to improved application functionality utilization, process improvement, and productivity.

**Departments should own and maintain their business processes** – Departments have a more thorough understanding of the details related to their specific business function and can better determine how business processes can be improved than the IT function. While IT can provide assistance in business process analysis, their assistance can often be more costly than departmental reviews because they must learn the business function before reviewing the business process. It is most effective for each department to understand, document, and train staff to utilize application software to assist in performing their function requirements.

**Assign and train application champions** – Application champions can be tasked with three primary functions. The first is to track enhancements and improvements to the application. In this way, the department can determine which enhancements could provide the biggest productivity improvements and prioritize those for implementation. The second is to be an internal subject-matter expert on application functionality, providing assistance and training to other department users on how to best utilize the system and gain the most from that use. The third is to be a liaison with IT for implementations. The departmental application champion is in the best position to translate department desires and needs into IT requirements, providing IT staff with the information they need to properly implement planned enhancements. Additionally, some application champions may have the aptitude to perform ad hoc reporting writing functions with Crystal Reports or Microsoft Reporting Services.

**Application administration** – Most departments should understand the application systems sufficiently to maintain and update application setup and configuration tables without the assistance of the IT Department. We believe that once departments begin maintaining their own applications, they will realize that the reduced coordination burden more than makes up for the increased workload associated with making the changes internally.

## INFORMATION SYSTEMS GOVERNANCE

In an environment of high demand and limited resources, an IT Steering Committee is often instrumental in providing project prioritization assistance and direction to IT. In addition to providing an oversight role, an IT Committee can be a conduit for IT to each department to discuss common issues, reach policy recommendations and discuss and recommend information systems goals and new requirements. The IT Committee is also an excellent format to review open Help Desk tickets and other issues to establish and ensure that all problems are accounted for and are being addressed.

In order for the IT Committee to be meaningful to departmental representatives, the topics covered should be application oriented and should include a forum for each department to discuss their current technology problems and how to address them within the Town's resource constraints. The IT Committee meetings should also provide feedback to all departments on current and future priorities, so they can plan resource allocations to align with application implementations.

In our experience, the IT Committee is best utilized (with the input of the IT Manager) by tracking IT priorities and making recommendations to change those priorities as necessary. This means that the benefits of each project in the project inventory should be summarized and easily understood by the Committee members. It is important that the Committee understand why certain projects have priority and what the dependencies may be between projects.

The most active IT Committees participate in monthly meetings to review all open projects, budgeted projects, and project progress. Others meet quarterly because the IT Committee has more of an interdepartmental coordination and policy recommendation role, and is less involved in prioritization and project recommendations.

Separately from this document, we have provided the IT Manager with additional tools for use in organizing and leading the IT Committee. These tools include a sample IT Committee Charter, an expanded project inventory and sample agendas, meeting minutes, and presentation materials used with other IT Committees.

With the size and number of projects included in this ITMP, a vibrant and involved IT Committee will be critical to the success of the ITMP implementation.

## GOVERNMENT 2.0

The Town of Danville is already following all four Gov 2.0 Principles. Although, there is much more that can be done to advance the Town's Gov 2.0 vision through improved e-government services and on-line communications. However, due to the Town's limited staff and financial resources, the Town should evaluate each Gov 2.0 concept and IT Initiative based upon several factors, including:

- Does the idea or IT Initiative address a critical Town strategy or goal?
- Does the idea or IT Initiative address a Gov 2.0 principle?
- Does the idea or IT Initiative improve customer/citizen services?
- Does the idea or IT Initiative improve efficiencies?
- What human resources (internal or external) will be required for implementation?
- Does the Town have the financial resources for implementation and ongoing maintenance and support?
- What is the cost/benefit or Return on Investment (ROI)?

## WEBSITE ENHANCEMENTS

Municipalities that provide a significant number of services through the Internet regularly enhance their websites. Website enhancements will require the consistent effort on the part of all departments to identify and improve areas of communication with Danville businesses and residents. Maintaining a summary list of prioritized enhancements will be critical to organizing updates and scheduling major improvements to the site. The IT Committee should track and maintain the list of prioritized website enhancements as a part of its scope.

We reviewed the website and have the following recommendations for improvement:

**Continue to push content updates to departments.** The IT Department should be responsible for website availability and integrity and developing and maintaining a standard look-and-feel throughout the site. Departments should be responsible for developing and submitting new or revised content directly to the website. IT has developed some initial training to assist the departments in uploading Web content, this work effort should continue. It is important to recognize the additional work this may place on user departments, although some benefit will be gained from the reduced need to coordinate between IT and the departments for the posting of content updates.

**Place more news on the home page.** Successful websites provide frequent information updates that are easy to view with a minimum number of clicks. Placing high interest items on the home page, even if it means decreasing picture size, will quickly provide businesses and residents with more of the information they want.

**Improve integration of interactive content.** We encountered many pages of static verbiage with fax and print forms. We also encountered distinct sections of fully integrated content with online registration information. The Town should inventory all fax and print forms and determine for each, how or when the form will be replaced by a more interactive online submission. In some cases, an application upgrade will provide new online capabilities that will replace these forms. In other cases, it will be more cost-effective to develop online submission capabilities utilizing Adobe or Microsoft tools.

**Additional alerts for Town events and services.** Offering more reminders to businesses and residents of upcoming town events or service offerings will enhance the overall energy level of the website and will increase traffic to the site. We believe the town should also implement *Really Simple Syndication* on the website. This is a function that provides "Facebook like" notification of updates to the website to interested parties. We often utilize this function ourselves to reduce the need to check websites for updates.

**Track and publish website traffic information.** To track the success of online initiatives, monitoring and publishing a monthly report of website traffic and the top ten topics on the website is recommended. Publishing a monthly traffic report will increase staff awareness of the website and what items are receiving significant traffic.

## ***CITIZEN RELATIONSHIP MANAGEMENT (CRM)***

Citizen Relationship Management systems provide businesses and residents with a 24/7 online method to request services or register complaints. These systems also provide significant benefits to the municipality through computerized tracking of citizen requests, automated responses to requests and, potentially, integration with an internal work order system.

Many municipalities have successfully implemented CRM systems as an additional vehicle for the intake of business and resident requests. Most of our clients continue to allow call-in requests. Staff enters these requests into the same system to maintain a single tracking mechanism.

We recommend the Town explore how Munis' Citizen Services can meet the current need for Town CRM. Additionally, Munis is currently developing an enhanced CRM/311 solution. The Town should determine if Munis' CRM/311 development plans will adequately fulfill the Town's future CRM requirements.

## ***LAND MANAGEMENT SUITE OF APPLICATIONS***

Currently, the Town utilizes Permits Plus for land management and community development application functions. Permits Plus has been discontinued and is no longer supported by the vendor. Replacement software must be selected and implemented. A typical Land Management Suite of Applications includes:

- Project Planning/Zoning
- Permits
- Inspections
- Code Enforcement
- Business Licensing
- Land/Parcel/Address Management

Additional functionality may include:

- Online Permit Applications and Payments
- Online Code Enforcement Complaint Registration
- Online Inspection Scheduling
- Online Business Licensing
- GIS Integration
- IVR (Interactive Voice Response) Integration

The replacement of Permits Plus will be a significant undertaking. Implementing the replacement system and the online functionality associated with the system will require 2-3 years to conduct a needs assessment, procure, and fully implement.

## ***AUTOMATED AGENDA & ELECTRONIC DOCUMENT MANAGEMENT***

Automated Agenda software provides the ability for the Clerk's Office and departments to compile, review, and finalize Council meeting agenda items in an online collaborative process. We have found that automated agenda systems reduce time spent assembling agenda packets and can, if desired, eventually eliminate the need for paper copies.

Automated agenda management software is typically a component of the electronic document management system (EDMS). The Town utilizes LaserFiche as the electronic document management system for most scanning and electronic document storage. The Town also continues to maintain a significant number of paper documents. Storing and retrieving these paper documents is expensive and time consuming.

Typical EDMS solutions can provide the following overall functionality:

- Enterprise Records Management (including retention management)
- Integrated Document/Process Workflow Management, including Internal Request Management, and Routing and Distribution (Accounts Payable, Accounts Receivable, Human Resources, Project Tracking, etc.)
- Forms Management
- Project/Process Collaboration
- Agenda Management

During our assessment, we discovered several opportunities to improve processes by utilizing additional functions that can be provided by electronic document management systems. Potential improvements include implementation of electronic workflow, improved viewing of drawings, increased linkage of public documents to the website, and scanning additional historic documents for retrieval.

We recommend that the Town conduct a detailed needs assessment of their electronic document management system in order to gain an understanding of how the system should work, what configuration changes or specific training would improve staff's ability to utilize the system to its fullest potential, and what other departmental application integration would help improve the departments' business processes. The assessment should inventory all EDMS utilization issues and technical shortcomings, including training needs. At the conclusion of the assessment, the Town should work with the incumbent vendor to determine if that vendor meets the long term needs of the Town, or whether a search for another vendor is warranted.

## ***GEOGRAPHIC INFORMATION SYSTEMS (GIS)***

GIS systems are becoming integral components of the business of managing a municipality's assets and activities. In addition to tracking all parcels within the community, many municipalities inventory street signs, street lights, storm sewers, fire hydrants, trees and other fixed items through the GIS system. GIS systems are often integrated with work order systems to improve the accuracy of work order location information, reducing time spent locating equipment. Most of Danville's peers have at least one full-time GIS staff member. Other desired application integration includes Planning, Permits, Inspections, Code Enforcement, Business Licenses, EDMS, CRM, etc.

Because of budget constraints, we believe two alternatives hold the most promise for Danville. With either scenario, we recommend that the Town create an inventory of desired GIS information and integrations, prioritize that inventory, and estimate time to acquire each data set and complete each layer. For example, it may be that street lights are problematic due to



jurisdictional issues between the State, County and Town or surrounding Towns, in which case, properly inventorying streetlights would be high on the priority list.

The first alternative would be to identify and train existing staff to perform the tasks of inputting information into GIS. Likely candidates would be staff from public works or engineering. In order for part time staff to be successful, time for GIS would have to be allocated in blocks, for example two, four hour blocks of time each week dedicated to GIS.

The second alternative would be to partner with another organization to split the cost of staff. We have other clients that share GIS staff or utilize not-for-profit GIS consortiums to provide part-time staff for GIS work. In both cases, the time spent is highly productive and cost effective when compared to full time staff.

## ***COLLABORATION TOOLS***

Collaboration tools provide a vehicle for teams of individuals or committees to share pictures, documents, drawings, schedules, and other electronic materials in a secure manner. Collaboration tools have begun to be used by Parks and Recreation and Traffic for tracking and maintaining working documents for committees. Documents can be marked as “checked out” or “under revision” by a team member, assuring that other team members do not overwrite their changes.

Improved online collaboration is a key goal of Danville Government 2.0. Online collaboration saves time and energy and makes disbursed teams more productive. We believe that expanding the utilization of the current collaboration software product (Basecamp) in the short-term will provide significant benefits to Danville. Basecamp is inexpensive, easy to use, and provides many helpful features for successful collaboration. Development of basic training materials and expansion of Basecamp to other departments and Town committees and task force(s) is recommended.

## ***OPERATIONS APPLICATION TRAINING***

The Town utilizes approximately 100 Software applications throughout all departments. As application software changes and becomes more complicated, training staff to use the software properly becomes more important. Application installation vendors often underestimate training needs for competitive reasons and proper training in Microsoft Office applications can be as expensive as the software itself. In order for the Town to get the most benefit from application software investments, training must be tightly coupled with software implementation and major upgrades. In addition, refresher training or targeted advanced training can greatly improve staff productivity by providing “helpful hints” and a forum for questions and answers.

We believe that a renewed emphasis on targeted staff training in the Town’s application software will provide significant improvements in productivity and, in some cases, improved staff acceptance of the software. Development of an inventory of necessary training and prioritizing that training would be very helpful.

We would recommend beginning with Office 2007 training for all staff. Also, Project Sponsors and IT should review application training plans in detail to assure that the plans are sufficient to meet staff needs. For existing major application software, such as Munis and LaserFiche, some survey work will be required to properly identify and inventory targeted training needs by specific users and develop a training plan with priorities, costs, prioritizations, resource assignments, and ongoing tracking mechanisms .



## INFORMATION TECHNOLOGY INFRASTRUCTURE

As outlined in the Project Methodology Section of this report, *CLIENTFIRST* conducted a detailed IT Infrastructure Assessment. Overall, Danville's IT infrastructure is positioned well compared to peer communities. Main areas of concern are:

- The main computer room power distribution and seismic bracing are inadequate
- Backups and disaster recovery plans require further improvement

We coordinated an initial review with a consulting firm that specializes in computer room construction and remodeling and have provided the Town with a cost range for the necessary computer room improvements. These improvements include utilizing two uninterruptable power supplies (UPS) and distributing power through the UPS systems in a redundant manner and seismic bracing of all computer room racks. The budgetary costs for computer room improvements are included in Year 1 of the Plan (2010-2011).

Strategically, disaster recovery capabilities for the Town would best be met through utilization of the Maintenance facility computer room as a backup site. Some improvements in backup methodologies are also recommended to speed both the process of backing up files, but also individual file retrieval. Implementing the proper infrastructure to support the backup site is envisioned to be a multi-year process, beginning in the 2010-2011 budget year.

## IT DEPARTMENT PRODUCTIVITY

As a part of our IT Department resource review, we evaluated the productivity of the IT staff as measured by the amount of work effort available for new projects versus the amount of work effort required to maintain existing systems. We found that approximately one (1) full time equivalent (FTE) is available for new project work, while two (2) FTEs are dedicated to support and maintenance. This provides a productivity percentage of about 33% versus industry targets of 60% to 70%.

The report includes the following recommendations to reduce the amount of time spent on support-related issues and increase the amount of time available for new project related work:

- Complete implementation of network management software
- Revise procurement practices to purchase equipment in batches annually
- Procure and implement software to image PCs and quickly configure them
- Identify user training opportunities and assist users in becoming more self-sufficient
- Expand contract and part-time staffing for low value-added work
- Focus work efforts on high-priority projects

## IT DEPARTMENT STAFFING

As we stated in the *Findings* section of the report, the IT Manager serves as the business analyst, project manager, and report writer for most software applications, except the website. While we have identified some potential productivity improvements and recommended additional part-time assistance for basic technology tasks, we believe that the Five-Year Technology Capital Plan will require additional IT staff resources to assist with project management and business analysis for replacement systems and new modules of existing systems. The business/system analyst support will also be critical to support the department users with ongoing management and support of their enterprise applications.

Out of 94 total Initiatives/Sub-Initiatives, approximately 50 would require significant project management or procurement efforts and 19 would require business analysis to document and improve process flows. These efforts are more than existing staff can be expected to perform, even with the addition of consultants as subject matter experts in the application evaluation and procurement phases.

Based on the expected work load, up to two additional business analyst staff members will be required to effectively and efficiently implement and maintain the Initiatives included the Capital Plan.

## SUMMARY/CONCLUSION

Over the next two to three years, the plan calls for the Town IT function to operate on a dual track. The Town will select new enterprise software application(s) and enhance existing applications to provide additional functionality to many Town departments. Concurrently, IT will work to improve the network infrastructure and implement IT Best Practices in specific areas.

We hope that the IT Steering Committee will provide crucial oversight, direction, and support for the IT Department during this critical timeframe and that the IT Steering Committee will become an integral component in the determination of IT priorities and facilitating communications between the departments and IT. An ancillary benefit of additional department input should be the ability to allow the departments to take greater ownership of their operational applications.

We expect the projects outlined in this report to result in improved productivity and improved customer service, including the introduction of additional online, 24/7 service options. The key application projects that will garner the largest gains include implementation of a Citizen Relationship Management system, selection and implementation of a new Land Management Application suite, implementation of Automated Agenda Management software, extensive departmental application training, and expansion of GIS capabilities. IT and staff should continue to work together to enhance the website and keep website content current and topical. An IT infrastructure project to improve power distribution to servers is critical to the Town's ability to add new technology. Improvements to IT Emergency Preparedness will also require technical and financial resources.

The report recommends use of external resources for some basic IT functions, such as PC repairs and, potentially, job sharing for GIS. Consulting assistance will be helpful for some projects that are (1) high priorities, (2) beyond the scope of IT and department skill sets, and/or (3) lack internal resource availability. Currently, project management and business analysis are performed part-time by the IT Manager. Because the majority of upcoming work effort involves application selection and implementations, the Town may want to consider the addition of one or two IT staff members with business-analyst skill sets to the IT Department. These individuals would support all departments in project management, implementing small projects, assisting in reporting requirements, assisting with business process improvements, and troubleshooting issues with department operational applications.

Additionally, we recommend that action plans be developed by the departments and IT from the *Departmental Findings and Recommendations* section. The action plans should include all identified needs, recommended resolution, responsible individuals, target due dates, comments and, in some cases, the Help Desk log numbers. These action plans can ensure that all needs are being addressed and/or a decision has been made not to pursue a resolution. These action plans will also prove beneficial to annual resource and budget planning requirements.

The completed plan should not be reviewed as static, but rather as a dynamic tool that is revised and updated as business conditions and requirements change. The City should review and update the plan annually, using a shortened version of the methodology described in this *Executive Summary* and involving the City's IT Governance Committee. In this way, the plan will be a vehicle to continuously guide the activities of the IT Department. If the planning function is not an ongoing process, certain objectives may not be realized because objectives may change as the organization and its environment evolve. Technology will also change over

time, causing new alternatives to arise. These alternatives should be considered as a part of the annual review process.

# IT INITIATIVES SUMMARY

The following is a list of the 56 IT Initiatives developed as part of the IT Master Plan. In all there are approximately 94 projects when including sub-initiatives.

## Gov 2.0

- 1.1 Town Meeting Hall Audio/Visual
- 1.2 Council Video Streaming
- 1.3 Town Lobby Kiosks
- 1.4 Website Content and Metrics
- 1.5 Website Updates and Procedures
- 1.6 Website E-Integration
- 1.7 Website Development / Enhancements
- 1.8 Online Social Collaboration
- 1.9 Citizen Single Sign-on

## Departmental / Operational Improvements

- 2.1 Software Selection Best Practices
- 2.2 Application Support Best Practices
- 2.3 Operational Department Software/Systems Training
- 2.4 Electronic Collaboration Tools
- 2.5 Electronic Document Management Needs Assessment
- 2.6 Automated Agenda Management
- 2.7 Munis Enterprise Applications Needs Assessment
- 2.8 CRM (Citizen / Customer) Request Management
- 2.9 Work Orders Application – Munis Implementation
- 2.10 Online Application Tracking – Munis Implementation
- 2.11 Online Bids Management
- 2.12 Land Management Application Suite
- 2.13 Centralized Land/Parcel Management
- 2.14 GIS Needs Assessment
- 2.16 Electronic Plan Reviews
- 2.17 Business License Software Utilization
- 2.18 Class Software Upgrade
- 2.19 Parking Enforcement and Collections Software
- 2.20 Squad Car Video Recording
- 2.21 Security Surveillance Video Streamed to Squad Cars
- 2.22 Automatic Vehicle Locators

## IT Governance

- 3.1 IT Governance

## Infrastructure Improvements

- 4.1 Computer Room Improvements
- 4.2 Network Improvements
- 4.3 Server Consolidation
- 4.4 Computer Equipment Replacement
- 4.5 WAN Improvements
- 4.6 Website to Remote Data Center
- 4.7 Exchange Upgrades
- 4.8 Central Irrigation Controls
- 4.9 Server Disk Consolidation
- 4.10 Wireless Expansion and Guest Wireless
- 4.11 Central Facilities Light Management
- 4.12 In-Ground Traffic Monitoring

## Security

- 5.1 Security Improvements
- 5.2 Security Access Control Improvements

## Productivity

- 6.1 Improve IT Productivity
- 6.2 IT Staffing
- 6.3 IT Training
- 6.4 Dual Monitors
- 6.5 Unified Messaging
- 6.6 Telephone Call Routing Review
- 6.7 Mobile Access Improvements
- 6.8 Mobile / Field Application Access
- 6.9 User Training – Productivity & Office Software
- 6.10 VOIP Telephone Conversion Completion

## Emergency Preparedness

- 7.1 Emergency Preparedness - Backups and Disaster Recovery

# IT MASTER PLAN CAPITAL BUDGET

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# IT INITIATIVES TIMELINES

The following is a summary timeline of all IT Initiatives and Sub-Initiatives.

Cat	IT Initiative	Sub-Initiatives	Sponsoring Department	Total Plan Budget (LOW)	Total Plan Budget (HIGH)	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
1.1	Town Meeting Hall Audio/Visual			200,000	280,000					
1.2	Council Video Streaming			20,000	50,000					
1.3	Town Lobby Kiosks			12,000	12,000					
1.4	Website Content & Metrics			5,000	-					
1.5	Website Updates, Policies & Procedures			15,000	15,000					
1.6	Website E-Integration	eIntegration		-	-					
1.6	Website E-Integration	Forms		-	30,000					
1.6	Website E-Integration	Electronic Payments and Departments		-	-					
1.7	Website Development/Enhancements	Website Enhancements		-	-					
1.7	Website Development/Enhancements	News-Based		-	-					
1.7	Website Development/Enhancements	Interest Groups		-	-					
1.7	Website Development/Enhancements	Enable RSS		-	-					
1.7	Website Development/Enhancements	Website Content Management		-	-					
1.8	Online Social Collaboration	Online Social Collaboration		-	-					
1.8	Online Social Collaboration	LinkedIn		-	-					
1.8	Online Social Collaboration	Twitter/Facebook		-	-					
1.9	Citizen Single Sign-on			100,000	100,000					
2.1	Software Selection Best Practices			15,000	30,000					
2.2	Application Support Best Practices			15,000	30,000					
2.3	Operational Department Software/Systems Training	Departmental Training Needs Assessment		10,000	20,000					
2.3	Operational Department Software/Systems Training	Departmental Training		40,000	125,000					
2.4	Electronic Collaboration Tools	Project Collaboration Tools		50,000	110,000					
2.5	Electronic Document Management Needs Assessment	Electronic Document Management Needs Assessment		10,000	30,000					
2.5	Electronic Document Management Needs Assessment	Expand EDMS Utilization		150,000	250,000					
2.6	Automated Agenda Management			20,000	50,000					
2.7	Munis Enterprise Application Needs Assessment	Munis Needs Assessment		25,000	50,000					
2.7	Munis Enterprise Applications Needs Assessment	Munis Efficiency Improvements		150,000	250,000					



Cat	IT Initiative	Sub-Initiatives	Sponsoring Department	Total Plan Budget (LOW)	Total Plan Budget (HIGH)	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
2.8	CRM (Citizen / Customer) Relationship Management	CRM Needs Assessment / System Selection		10,000	15,000					
2.8	CRM (Citizen / Customer) Relationship Management	CRM System Implementation		15,000	50,000					
2.9	Work Orders Application - Munis			5,000	15,000					
2.10	Online Application Tracking - Munis			10,000	15,000					
2.11	Online Bids Management			10,000	30,000					
2.12	Land Management Application Suite	Land Management System Selection		35,000	50,000					
2.12	Land Management Application Suite	Land Management System Implementation		250,000	750,000					
2.13	Centralized Land/ Parcel Management	Centralized Land/ Parcel Management		Policy	Policy					
2.14	GIS Needs Assessment	GIS Needs Assessment		15,000	30,000					
2.14	GIS Needs Assessment	GIS Implementation		100,000	250,000					
2.16	Electronic Plan Reviews			10,000	30,000					
2.17	Business License Software Utilization			10,000	30,000					
2.18	Class Software Upgrade	Including POS and Lighting Management Modules		35,000	45,000					
2.19	Parking Enforcement and Collections Software			15,000	20,000					
2.20	Squad Car Video Recording			115,000	115,000					
2.21	Security Surveillance Video Streamed to Squad Cars			60,000	60,000					
2.22	Automatic Vehicle Locators			70,000	100,000					
3.1	IT Governance	TAG Committee Project Prioritization		-	-					
4.1	Computer Room Improvements	Computer Room Improvements		-	-					
4.1	Computer Room Improvements	Power Distribution		30,000	40,000					
4.1	Computer Room Improvements	Seismic Bracing		20,000	25,000					
4.2	Network Improvements	Switching & Routing		10,000	10,000					
4.3	Server Consolidation			25,000	35,000					
4.4	Computer Equipment Replacement	Computer Replacement Plan		180,000	150,000					
4.4	Computer Equipment Replacement	Police MDC Replacements		100,000	75,000					
4.5	WAN Improvements			25,000	24,000					
4.6	Website to Remote Data Center			30,000	24,000					
4.7	Exchange Upgrades	Exchange 2010 Upgrade (includes Archiving)		40,000	45,000					
4.8	Central Irrigation Controls			560,000	560,000					
4.9	Server Disk Consolidation			30,000	40,000					
4.10	Wireless Expansion and Guest Wireless			40,000	52,500					
4.11	Central Facilities Light Management	Infrastructure Equipment		-	100,000					
4.12	In-Ground Traffic Monitoring			-	-					

Cat	IT Initiative	Sub-Initiatives	Sponsoring Department	Total Plan Budget (LOW)	Total Plan Budget (HIGH)	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015
5.1	Security Improvements	Security Improvements		-	-					
5.1	Security Improvements	User Access Policy and Procedure		-	-					
5.1	Security Improvements	PCI Compliance Plan		7,500	7,500					
5.1	Security Improvements	Firewall Update Policy and Procedure		-	-					
5.1	Security Improvements	Remote Access Policy and Procedure		-	-					
5.1	Security Improvements	Video Security		-	-					
5.1	Security Improvements	Video Security Management Software & Device Standards		15,000	15,000					
5.1	Security Improvements	Video Security for Art Gallery		20,000	20,000					
5.1	Security Improvements	Ongoing Video Surveillance		275,000	220,000					
5.1	Security Improvements	PCI Compliance Implementation		15,000	30,000					
5.1	Equipment Configuration Procedures	Server and PC Build Documentation		-	-					
5.1	Security Improvements	IT Security Review		10,000	15,000					
5.1	Security Improvements	Log and Event Management		5,000	15,000					
5.2	Security Access Control Improvements	Security Access Control Improvements		-	3					
5.2	Security Access Control Improvements	Park Restrooms		20,000	40,000					
6.1	Improve IT Productivity	Desktop Management Suite		5,000	5,000					
6.1	Improve IT Productivity	PC & Server Imaging		-	-					
6.1	Improve IT Productivity	Application Patch Deployment		-	-					
6.2	IT Staffing			120,000	225,000					
6.3	IT Training			30,000	37,500					
6.4	Dual Monitors			42,000	15,000					
6.5	Unified Messaging			15,000	30,000					
6.6	Telephone Call Routing Review			7,500	10,000					
6.7	Mobile Access Improvements	Mobile Access Improvements		-	1					
6.7	Mobile Access Improvements	Smart Phone Policy and Rollout		5,000	10,000					
6.8	Mobile / Field Application Access			120,000	140,000					
6.9	User Training – Productivity & Office Software			20,000	40,000					
6.10	VOIP Telephone Conversion Completion			66,000	66,000					
7.1	Emergency Preparedness	Backup Improvements		-	-					
7.1	Emergency Preparedness	Offsite Tape Rotation		28,800	24,000					
7.1	Emergency Preparedness	Backup to Disk & Tape Carousel Replacement		15,000	15,000					
7.1	Emergency Preparedness	Disaster Recovery Planning Prioritization		5,000	10,000					
7.1	Emergency Preparedness	Implement Maintenance as DR Site		10,000	20,000					
7.1	Emergency Preparedness	Server and Disk Replication to DR Site		25,000	40,000					
7.1	Emergency Preparedness	IT DR Plan Testing		5,000	10,000					

## APPENDIX A – IT MASTER PLAN INITIATIVES

The following section contains the *IT Master Plan Initiatives Report* in its entirety.

## APPENDIX B - NON-IT DEPARTMENT NEEDS ASSESSMENT

The following section contains the *Non-IT Department Needs Assessment Report* in its entirety.